

CLAIMS (Amended 30th July 2008)

1. A volume measuring device for measuring a volume of a gas within a vessel, the device being arranged to:
 - produce a continuous change in the volume of the gas;
 - measure the rate of change of pressure of the gas with respect to the volume by determining incremental changes of volume throughout the change in volume, and measuring incremental pressure changes associated with respective volume changes, or work done during respective volume changes;
 - use the measurements to determine a straight line relationship;
 - and determine the volume of the gas from the volume changes and either the pressure changes or work done.
2. The device according to claim 1 including a pressure sensor arranged to measure the incremental pressure changes.
3. A method of measuring a volume of a gas within a vessel, the method comprising:
 - producing a continuous change in the volume of the gas;
 - measuring the rate of change of pressure of the gas with respect to the volume by determining incremental changes of volume throughout the change in volume, and measuring incremental pressure changes associated with respective volume changes, or work done during respective volume changes;
 - using the measurements to determine a straight line relationship;
 - and determining the volume of the gas from the volume changes and either the pressure changes or work done.
4. The method according to claim 4 wherein there is no requirement for the knowledge of absolute pressure or temperature.